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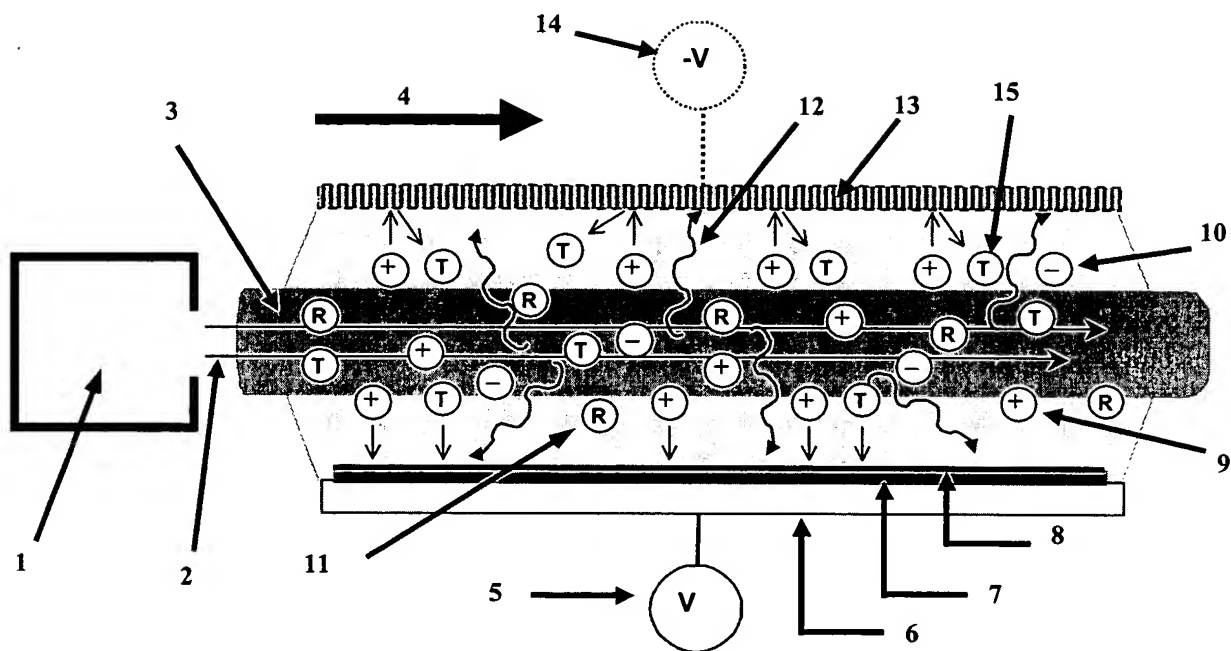
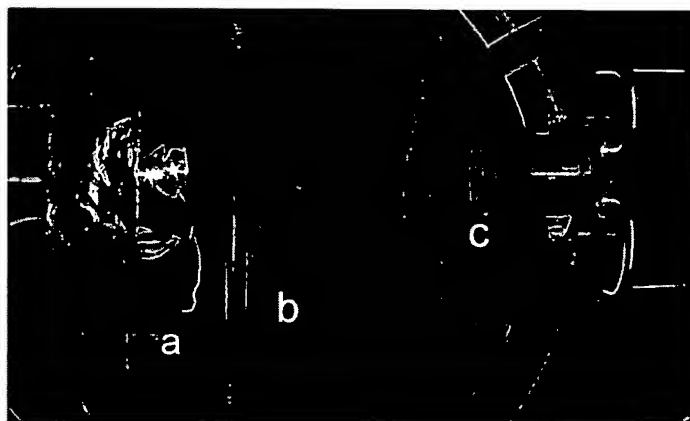


Figure 1. LAMPSAS Schematic I: (1) Beam source; (2) Electron beam; (3) Beam-generated plasma; (4) Direction of external magnetic field; (5) Substrate bias voltage (+ or -); (6) Conducting electrode; (7) Substrate; (8) Deposited film; (9) Positive ion; (10) Electron and/or negative ion; (11) Neutral radical; (12) UV photon; (13) Target; (14) Target power supply; and (15) Sputtered target material. The width of the substrate goes into the page.

Figure 2 Photograph of inside of chamber with a) substrate holder, b) anode slot for electron beam source, and c) magnetron with aluminum target.



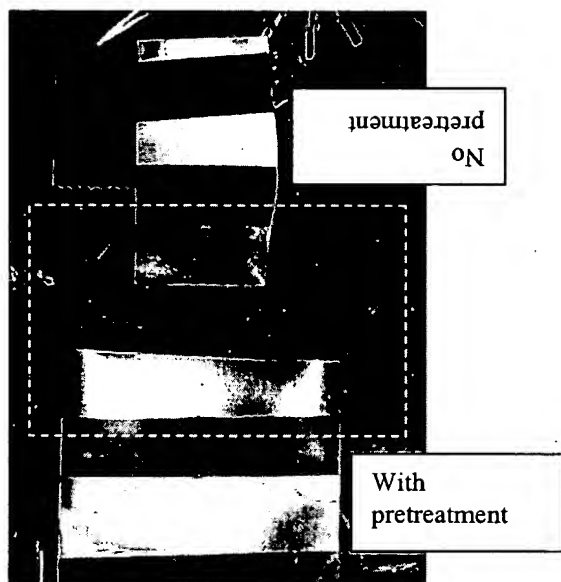


Figure 3 Aluminum-coated Teflon® samples without (top) and with (bottom) plasma pretreatment. The dotted line shows where the tape was applied for the Scotch® tape adhesion test.

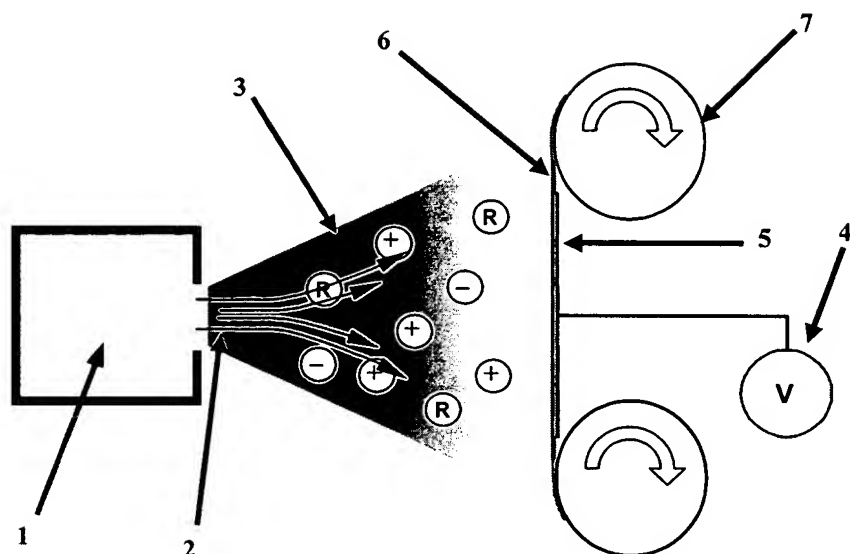


Figure 4. LAMPSAS Schematic II: (1) Beam source; (2) Electron beam; (3) Beam-generated plasma; (4) Substrate bias voltage (+ or -); (5) Conducting electrode; (6) Substrate; and (7) roll-to-roll spools for substrate. The width of the system goes into the page. Gas phase species are not labeled here for clarity.